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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Stanley Seay

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EXAMINER

HUYNH, NAM TRUNG

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

04/30/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ecallan1@san.rr.com

Office Action Summary	Application No. 10/725,873	Applicant(s) SEAY, THOMAS STANLEY	
	Examiner NAM HUYNH	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27,34-36 and 48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27,34-36 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 12/30/09 is acknowledged.
2. Claims 37-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/30/09. In the Election/Restriction filed on 12/10/09, claim 48 was mistakenly not placed into a group and should have been placed into Group I. Accordingly, claims 1-27, 34-46, 46, and 48 are now pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim recites that "means for storing-relay authorization-and-priority data for a plurality of **said user terminals** (emphasis added) having respective identification codes". The claim language is indefinite because it can not be

determined whether "said user terminals" refers to the originator user terminals or the destination user terminals recited in the preamble.

Regarding claim 22, the limitations are rejected for the reasons set forth in claim 1.

Regarding claims 2-21 and 23, the limitations are rejected based on their dependence on claims 1 and 22.

Regarding claim 24, the claim recites "means for detecting the direction of arrival of the received given communication signal by processing portions of the given signal **prior to detecting identification codes in the received given signal** (emphasis added)". The subject matter implies that direction of arrival is detected before detecting identification codes in the received signal; however there is no prior or later mention of any detection of "identification codes". Therefore the order for which the means of the relay terminal performs defined functions can not be determined.

Accordingly the subject matter of claims 1-24 will be examined with respect to prior art under the best reasonable interpretation of the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-4, 6, 9, 15, 16, 19-21, 24, 25, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talaie et al. (US 2004/0018834) in view of Goerke (US 6,201,967).

Regarding claim 1, Talaie teaches a relay terminal (satellite) for relaying communication signals from originator user terminals to destination user terminals (figure 2), comprising:

means for storing relay-authorization-and-priority data for a plurality of said user terminals having respective identification codes (paragraphs 34, 35, and 37).

means for simultaneously receiving communication signals sent from a plurality of said originator terminals for relay to a plurality of said destination terminals that are identified in said received communication signals, wherein said received signals include identification codes for said originator terminals and identification codes for said identified destination terminals (paragraphs 27-33);

means for detecting said identification codes in said received communications signals (paragraphs 30, 35);

means for processing said detected identification codes in combination with said stored data to determine if immediate relaying (priority) of said received communication signals to respective said identified destination terminals is authorized (paragraphs 39, 40);

However, Talaie does not explicitly teach means for relaying said received communication signals immediately to only those of said identified destination terminals to which immediate relaying is authorized in accordance with said determination. Goerke discloses a mobile satellite communications system (abstract). Goerke teaches that a call between an originating mobile station and a destination mobile station is conducted immediately when the destination mobile station is available (authorized for immediate relaying) and placed on hold when the destination mobile terminal is unavailable (not authorized for immediate relaying) (column 10, lines 60-67; column 11, lines 1-36). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Talaie, to include relaying based on availability of the destination terminal, as taught by Goerke, in order to avoid wasting resources by attempting to contact unavailable mobile terminals.

Regarding claim 2, Talaie teaches means for updating said stored relay-authorization-and-priority data immediately in response to a received control message (paragraphs 39, 40; priority is sent by user terminal for associating with a previous user registration).

Regarding claim 3, Goerke teaches wherein said processing means are adapted for re-determining said immediate-relay authorization in accordance with said updated

Art Unit: 2617

stored relay-authorization-and-priority data (when the status of the destination terminal becomes available) and to preempt at least some previously authorized signal relaying in accordance with said re-determination (call is re-established when destination terminal becomes available) (column 11, lines 32-36).

Regarding claim 4, Goerke teaches wherein the processing means are adapted for processing said detected identification codes and said stored data in combination with geographical-position data for the relay terminal (position of satellite) and the identified destination terminals (position of destination terminal) to determine whether immediate relaying of said received communication signal to the respective identified destination terminals is authorized in accordance with the relative positions of the relay terminal and the identified destination terminals (immediate relaying occurs if the network can locate the destination terminal) (column 11, lines 1-16).

Regarding claim 6, Goerke teaches means for storing for delayed relay those received communication signals of which immediate relaying to respective said identified destination terminals is not authorized in accordance with said determination (column 11, lines 33-36).

Regarding claim 9, Goerke teaches means for processing directional-position data (most recently recorded position) associated with said destination terminals for defining beam paths for relaying signals to said destination terminals (column 11, lines 1-16).

Regarding claim 15, Goerke teaches means for processing directional-position data associated with a given said originator terminal to form a beam path for communications with the given originator terminal (column 8, lines 44-50).

Regarding claim 16, Goerke teaches means for deriving directional-position data (terrestrial position of mobile terminal) associated with a given said originator terminal from an acquisition segment of a burst of a said communication signal received from a given said originator terminal (received signal); and

means for immediately defining a beam path in accordance with said derived directional-position data to enable receipt of the remaining portion of said received signal burst within the formed defined beam path (beam to communicate with mobile terminal) (column 8, lines 44-59).

Regarding claim 19, Talaie teaches the receiving means are adapted for simultaneously receiving a plurality of communication signals within a plurality of distinct beam paths from a plurality of different originator terminals; and

wherein the relaying means are adapted for simultaneously relaying communications signals within a plurality of distinct beam paths to a plurality of different destination terminals (figure 2).

Regarding claim 20, Talaie teaches the receiving means include a plurality of receivers for respectively receiving said communication signals sent from said plurality of said originator terminals (figure 2).

Regarding claim 21, the limitations are rejected as applied to claim 1.

Regarding claim 24, the combination of Talaie and Goerke teaches a relay terminal for relaying communication signals from originator user terminals to identified destination user terminals (Talaie figure 2), comprising:

means for receiving a given communication signal sent from a given said originator terminal for relay to one or more selected said destination terminals (Talaie paragraphs 27-30);

means for detecting the direction of arrival of the received given communication signal by processing portions of the given signal received prior to detecting identification codes in the received given signal;

means for deriving directional-position data associated with the given originator terminal from said detected direction of arrival of the given received communication signal (mobile terminal position is calculated from received signal); and

means for processing the derived directional-position data associated with the given originator terminal to define a beam path for communications with the given originator terminal (beam communicates with mobile terminal) (Goerke column 8, lines 44-59).

Regarding claim 25, the limitations are rejected as applied to claims 1 and 16.

Regarding claim 48, the limitations are rejected as applied to claims 1 and 24.

8. Claims 10-14, 17, 26, 27, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talaie et al. (US 2004/0018834) and Goerke (US 6,201,967),

as applied to claims 1, 9, 16, and 25 above, and further in view of Schuchman et al. (US 5,683,399).

Regarding claims 10, 11, and 34, the combination of Talaie and Goerke teaches the limitations set forth in claims 1 and 9, but does not explicitly teach means for applying frequency-hopping patterns to said received communication signals for said relay of said communications signals; means for storing a library of algorithms and parameters for executing a plurality of frequency-hopping patterns; and means for selecting algorithms and parameters from said library that cause different frequency-hopping patterns to be applied for each simultaneous said receipt and relay of said communication signals. Schuchman discloses a multi-beam satellite communication system with user terminal frequencies having transceivers using the same set of frequency hopping (title). Schuchman teaches:

means for applying frequency-hopping patterns to said received communication signals for said relay of said communications signals (column 6, lines 10-19; FH is applied to transmit messages);

means for storing a library of algorithms and parameters for executing a plurality of frequency-hopping patterns (column 7, lines 5-13; a specific hopping pattern is applied over each used frequency);

and means for selecting algorithms and parameters from said library that cause different frequency-hopping patterns to be applied for each simultaneous said receipt and relay of said communication signals (abstract; a signal channel per beam is used to broadcast to all user terminals covered by each beam).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Talaie and Goerke to implement frequency hopping patterns for simultaneously transmitting to user terminals, as taught by Schuchman, in order to increase bandwidth efficiency which in turn provides higher user capacity.

Regarding claims 12, 13, 35, and 36, in the combination Talaie, Goerke, and Schuchman the data to be relayed is frequency hopped by the relay. Therefore the Examiner takes the position that in the combination of the four inventions, the data broadcasted by the satellite (Talaie; paragraph 40) would be frequency hopped and it is further obvious that this data would comprise acquisition, identification, and payload segments which is a well known packet structure.

Regarding claim 14, Schuchman teaches the relaying means are adapted for simultaneously relaying a plurality of communications signals and for applying a different frequency-hopping pattern to each said simultaneously relayed communication signal (abstract; a signal channel per beam is used to broadcast to all user terminals covered by each beam).

Regarding claims 17 and 26, the combination of Talaie and Goerke teaches the limitations set forth in claim 16, but does not explicitly teach means for transmitting an error-corrected version of said received signal burst back to said given originator terminal within the defined beam path. Schuchman teaches forward error correction integrated into the frequency hopped message structure between the satellite and a user terminal (column 8, lines 56-67; column 9, lines 1-24). Therefore it would have

Art Unit: 2617

been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Talaie and Goerke to include forward error correction, as taught by Schuchman, in order to provide correct decoding of the desired information.

Regarding claim 27, the limitations are rejected as applied to claims 1 and 17.

Allowable Subject Matter

9. Claims 22 and 23 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. Claims 5, 7, 8, and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments with respect to claims 1-4, 6, 9-17, 19-21, 24-27, 34-36, and 48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAM HUYNH whose telephone number is (571)272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

/Nam Huynh/
Examiner, Art Unit 2617